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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 3: Advanced Technology Development (ATD)				R-1 ITEM NOMENCLATURE PE 0603716D8Z: Strategic Environmental Research and Development Program (SERDP)							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	63.914	67.128	68.021	0.000	68.021	68.695	69.487	70.614	71.878	Continuing	Continuing
P470: Strategic Environmental Research and Development Program (SERDP)	63.914	67.128	68.021	0.000	68.021	68.695	69.487	70.614	71.878	Continuing	Continuing
A. Mission Description and Budget Item Justification											
Congress established the Strategic Environmental Research and Development Program (SERDP) in 1990 (10 U.S.C. Section 2901-2904) to address Department of Defense (DoD) and Department of Energy (DOE) environmental concerns. It is conducted as a DoD program, jointly planned and executed by the DoD, DOE, and the Environmental Protection Agency (EPA), with strong participation by other Federal agencies, industry, and academia. SERDP's objective is to improve DoD mission readiness and environmental performance by providing new scientific knowledge and cost-effective technologies in the areas of Environmental Restoration, Munitions Management, Sustainable Infrastructure, and Weapons Systems and Platforms. SERDP does this by addressing high priority DoD environmental technology requirements. SERDP enhances military operations, improves military systems` effectiveness, enhances military training/readiness, sustains DoD's training and test ranges and installation infrastructure, and helps ensure the safety and welfare of military personnel and their dependents by eliminating or reducing the generation of pollution and use of hazardous materials and reducing the cost of remedial actions and compliance with environmental laws and regulations. As a secondary benefit, SERDP helps solve significant national and international environmental problems. The keys to a growing list of SERDP technological successes are the ability to respond aggressively and proactively to priority defense environmental needs; the pursuit of world-class technical excellence; and an emphasis on constant technology transfer.											

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
0400: Research, Development, Test & Evaluation, Defense-Wide		PE 0603716D8Z: Strategic Environmental Research and Development Program (SERDP)			
BA 3: Advanced Technology Development (ATD)					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	69.038	69.175	0.000	0.000	0.000
Current President's Budget	63.914	67.128	68.021	0.000	68.021
Total Adjustments	-5.124	-2.047	68.021	0.000	68.021
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		-2.047			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-3.246	0.000			
• SBIR/STTR Transfer	-1.365	0.000			
• Other Program Adjustments	-0.513	0.000	68.021	0.000	68.021

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 3: <i>Advanced Technology Development (ATD)</i>				R-1 ITEM NOMENCLATURE PE 0603716D8Z: <i>Strategic Environmental Research and Development Program (SERDP)</i>				PROJECT P470: <i>Strategic Environmental Research and Development Program (SERDP)</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
P470: <i>Strategic Environmental Research and Development Program (SERDP)</i>	63.914	67.128	68.021	0.000	68.021	68.695	69.487	70.614	71.878	Continuing	Continuing

A. Mission Description and Budget Item Justification

Congress established the Strategic Environmental Research and Development Program (SERDP) in 1990 (10 U.S.C. Section 2901-2904) to address Department of Defense (DoD) and Department of Energy (DOE) environmental concerns. It is conducted as a DoD program, jointly planned and executed by the DoD, DOE, and the Environmental Protection Agency (EPA), with strong participation by other Federal agencies, industry, and academia. SERDP's objective is to improve DoD mission readiness and environmental performance by providing new scientific knowledge and cost-effective technologies in the areas of Environmental Restoration, Munitions Management, Sustainable Infrastructure, and Weapons Systems and Platforms. SERDP does this by addressing high priority DoD environmental technology requirements. SERDP enhances military operations, improves military systems effectiveness, enhances military training/readiness, sustains DoD's training and test ranges and installation infrastructure, and helps ensure the safety and welfare of military personnel and their dependents by eliminating or reducing the generation of pollution and use of hazardous materials and reducing the cost of remedial actions and compliance with environmental laws and regulations. As a secondary benefit, SERDP helps solve significant national and international environmental problems. The keys to a growing list of SERDP technological successes are the ability to respond aggressively and proactively to priority defense environmental needs; the pursuit of world-class technical excellence; and an emphasis on constant technology transfer.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Environmental Restoration	18.756	18.327	17.589	0.000	17.589
Environmental Restoration (ER) reduces DoD's liabilities by developing technologies for the cost-effective detection, characterization, containment, and remediation of contamination in soil, sediments, and water.					

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Science and technology advancements were made to address DoD’s emerging groundwater issues, sediment contamination, sustainment of test and training ranges, managing persistent DoD contamination, and improve the monitoring and optimization of DoD remediation efforts. SERDP continued to improve scientific understanding and develop innovative cost effective methods in support of DoD’s remediation efforts and the sustainment of DoD ranges. A major accomplishment was the development of new insights into the mechanisms underlying phytoremediation of explosives and propellants in the field as well as the development of a variety of new grasses with unique abilities to detoxify TNT and degrade RDX. These plants promise to provide a self-sustaining, inexpensive, and environmentally friendly method of range restoration that can be used over large areas of land for preventing groundwater contamination. New initiatives begun in FY 2009 are addressing the management of large dilute plumes of contaminated groundwater, improved identification of munitions constituent source zones on DoD ranges, improved understanding of vapor intrusion pathways from chlorinated solvent contaminated groundwater, improved understanding of the fate and transport of munitions constituents, and improved understanding of environmental parameters and sampling methods on measured groundwater contaminant concentrations. A description of all new FY 2009 ER projects can be found at www.serdp.org .						
FY 2010 Plans: New research initiatives will focus on innovative risk assessment approaches for military unique compounds, the options and limitations for treatment of persistent contaminated groundwater plumes, and bioavailability of contamination found on DoD ranges and sediments. New FY 2010 ER selected projects briefed the Scientific Advisory Board in September and October 2009. Details are available at www.serdp.org .						
FY 2011 Base Plans: New research initiatives will focus on the highest priority DoD requirements to reduce DoD’s liabilities by developing technologies for the cost-effective detection, characterization, containment,						

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
and remediation of contamination in soil, sediments, and water. Specific Statements of Need were released in October 2009 in the following areas: assessing the environmental impacts of munitions compounds in the marine environment; in-situ remediation of perfluoroalkyl contaminated groundwater; improved understanding of impacts to groundwater quality post-remediation; improved assessment of munitions constituent source terms on operational ranges; and in-situ remediation of contaminated aquatic sediments. Details are available at www.serdp.org .						
Munitions Management (MM) Munitions Management (MM) develops detection, discrimination, and remediation technologies for Unexploded Ordnance (UXO) to address the significant DoD liability in the Military Munitions Response Program. Investments are also made to improve active range clearance and reduced generation of UXO during live fire testing and training operations. FY 2009 Accomplishments: Investment in munitions management yielded new technologies to address the difficult and persistent issues faced by the Military Munitions Response Program. Technology advancements continued in the areas of ground based detection and discrimination, wide area assessment, detection of underwater UXO, and advanced planning and assessment tools. Investigators continued to use the two standardized test sites for the evaluation of UXO detection technologies and continued efforts to improve sensor designs and improve detection and discrimination methods. A major accomplishment was an innovative structural-acoustics sonar system for wide-area identification of UXO using structural acoustic features from proud and buried underwater objects providing DoD with a new capability for locating underwater UXO. New initiatives begun in FY 2009 will continue to focus on advanced sensors, signal processing, supporting technologies and protocols. Notably is the development of more capable hand held sensors for detecting and discriminating buried UXO and systems for the detection and discrimination of underwater munitions. In addition, projects will be funded to analyze data obtained from recent live site discrimination tests to improve current algorithms		13.201	13.613	14.260	0.000	14.260

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
and develop new discrimination approaches. A description of all new FY 2009 MM projects can be found at www.serdp.org . <i>FY 2010 Plans:</i> New research initiatives will focus on advancements in underwater UXO detection and discrimination, advanced sensors, signal processing, supporting technologies, and protocols to reduce the costs associated with detecting and remediating UXO. New FY 2010 MM selected projects briefed the Scientific Advisory Board in September and October 2009. Details are available at www.serdp.org . <i>FY 2011 Base Plans:</i> New research initiatives will focus on the highest priority DoD requirements in underwater UXO detection and discrimination, advanced sensors, signal processing, supporting technologies, and protocols to reduce the costs associated with detecting and remediating UXO. Specific Statements of Need were released in October 2009 in the following areas: the development of advanced technologies for detection, discrimination, and remediation of military munitions on land and underwater and tools to support informed decisions on munitions response sites. Details are available at www.serdp.org .						
Sustainable Infrastructure Sustainable Infrastructure (SI) develops the science and technologies required to sustain training and testing ranges and installation infrastructure as well as the base camps required for deployed forces. <i>FY 2009 Accomplishments:</i> Science and technology advancements were made to improve DoD's ecosystem-based management, protection of threatened and endangered species and marine mammals, management of cultural resources on DoD lands, and protection of watersheds to sustain military test and training lands. Continued investments were made to address issues of noise, air quality, and energy to support the long term cost effective sustainability of military installations. SERDP continued efforts to address		18.293	20.161	20.206	0.000	20.206

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>persistent issues that severely impact installation readiness and the ability to support training and testing. A major accomplishment was the successful development of a remotely operated vehicle (ROV) for mapping and monitoring coral reefs under a range of conditions. The results of this work are an essential component of the legally mandated environmental documentation necessary for conducting military operations and will provide decision makers with critical information to maintain compliance with relevant statutes, regulations, and executive orders. New initiatives begun in FY 2009 are developing an understanding of the mechanisms of forest decline on installations in the Southeast, assess the impacts of potential sea level rise on military infrastructure across the United States and climate change on coastal ecosystems on military lands in the southeast, and develop tools to predict the impact of military training activities on archeological resources on DoD lands. A description of all new FY 2009 SI projects can be found at www.serdp.org</p> <p><i>FY 2010 Plans:</i> New research initiatives will assess the impact of climate change on military lands in the southwest and improve our understanding and develop tools to manage the generation of dust due to military activities on our ranges. New FY 2010 SI selected projects briefed the Scientific Advisory Board in September and October 2009. Details are available at www.serdp.org.</p> <p><i>FY 2011 Base Plans:</i> New research initiatives will focus on the highest priority DoD requirements to develop the science and technologies required to sustain training and testing ranges and installation infrastructure as well as the base camps required for deployed forces. Specific Statements of Need were released in October 2009 in the following areas: assessing the impacts of climate change on Alaskan ecological systems; ecological forestry and carbon management; ecology and management of source-sink populations; and studying the behavioral ecology of cetaceans. Details are available at www.serdp.org.</p>						
Weapons Systems and Platforms		13.664	15.027	15.966	0.000	15.966

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B. Accomplishments/Planned Program (\$ in Millions)						
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<p>Weapons Systems and Platforms (WP) develops technologies and materials that reduce the waste and emissions associated with the manufacturing, maintenance, and use of DoD weapons systems and platforms to reduce future environmental liabilities and their associated costs and impacts.</p> <p><i>FY 2009 Accomplishments:</i> The Weapons Systems and Platforms program continued to focus on development of 'green' energetics, munitions, and weapons systems components as well as innovative life-cycle-based coating systems for military aircraft and land based platforms that eliminates volatile organic compounds, heavy metal constituents, and associated hazardous air pollutants. A significant accomplishment was the development of a environmentally benign, perchlorate-free pyrotechnic formulations based on novel oxidizers and fuels. The primary benefit of this effort will enable the development of new perchlorate-free pyrotechnic formulations for incendiary munitions, which are more environmentally benign than the present perchlorate-containing formulations. A subsidiary outcome will be reductions in the occurrence of bush fires on training ranges. New efforts begun in FY 2009 included advanced methods for removing solid waste from shipboard waste streams, characterization of open burn/open detonation of energetics, environmentally benign aircraft deicing and anti-icing, new techniques to predict corrosion protection, and the science behind military paint strippers. A description of all new FY 2009 WP projects can be found at www.serdp.org</p> <p><i>FY 2010 Plans:</i> New initiatives are planned to develop alternatives to perchlorate for missile systems, replacement for the military uses of the global warming gas SF6, new military cleaners and paint stripping techniques, sustainable materials and processes for military composites, and a scientific understanding of the impacts of lead free electronics in military hardware. New FY 2010 WP selected projects briefed the Scientific Advisory Board in September and October 2009. Details are available at www.serdp.org.</p>						

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: New research initiatives will focus on the highest priority DoD requirements to develop technologies and materials that reduce the waste and emissions associated with the manufacturing, maintenance, and use of DoD weapons systems and platforms to reduce future environmental liabilities and their associated costs and impacts. Specific Statements of Need were released in October 2009 in the following areas: the development of alternatives to copper-beryllium and aluminum-beryllium alloys for military applications; environmentally benign, insensitive, castable, high-performance, minimum-smoke rocket propellant; understanding the corrosion protection requirements for adhesive bond primers; combustion science to predict emissions from military platforms burning alternative fuels; environmentally benign removal processes for low observable weapons systems; and replacement of hexachloroethane in handheld obscurants. Details are available at www.serdp.org .						
Accomplishments/Planned Programs Subtotals		63.914	67.128	68.021	0.000	68.021
C. Other Program Funding Summary (\$ in Millions)						
N/A						
D. Acquisition Strategy						
N/A						
E. Performance Metrics						
Performance in this program is monitored at two levels. At the lowest level, each of the more than 160 individual projects is measured against both technical and financial milestones on a quarterly and annual basis. At a program-wide level, progress is measured against DoD's environmental requirements and the development of technologies that address these requirements as well as the transition of these technologies to either to demonstration and validation programs or to direct use in the field.						

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